REMARKS

This Amendment is responsive to the Office Action dated June 19, 2008. Claims 1-51 are pending in the present application. Applicant has amended claims 1, 2, 4, 13, 25, 26, 37, 38, 49, and 50. Applicant adds new claim 51. No new matter is added by amendment.

Discussion of Rejections Under 35 U.S.C. §101

Claims 37-48 were rejected under 35 U.S.C. §101 as allegedly directed to non-statutory subject matter. Applicant respectfully traverses the rejection.

Claims 37-48 are directed to "[a] machine-readable medium comprising instructions to test a plurality of wireless subscriber stations." The execution of the instructions cause a machine to perform specific functions. This is clearly statutory subject matter, as provided for under 35 U.S.C. §101 and as explained in MPEP 2106.01(I).

As clearly set forth in the MPEP:

> [A] claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, *and is thus statutory.* See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. MPEP 2106.01(I) (*emphasis added*).

Claims 37-48 are expressly directed to a machine readable medium. The instructions stored or encoded within the claimed machine readable medium define the functional interrelationships between the program and the rest of the machine which permit the program's functionality to be realized. Thus, as explained in the MPEP section reproduced above, the claim is directed to statutory subject matter.

Applicant respectfully requests reconsideration and withdrawal of the rejection under 35 U.S.C. §101.

Discussion of Rejections Under 35 U.S.C. §103

Claims 1-50 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No 6,085,103 to Ramesh et al. (hereinafter Ramesh) and U.S. Patent No. 6,978,131 to Lee (hereinafter Lee) in view of U.S. Patent No. 5,414,734 to Marchetto et al. (hereinafter Marchetto).

To establish a *prima facie* case of obviousness, the prior art reference, or references when combined, must teach or suggest all of the claim limitations. Applicant contends that a *prima*

facie case for obviousness has not been established and respectfully traverses the rejections. In particular, Applicant contends that the references, either alone or in combination, fail to teach or suggest all claimed features. Additionally, Applicant contends that the modifications and combinations relied upon by the Examiner are impermissible, as they render the references unsatisfactory for their intended purpose and substantially change the principle of operation of the reference.

The References Fail to Teach or Suggest Every Claimed Feature

The references, whether alone or in combination, fail to teach or suggest every feature of the claims.

Claim 1 recites a method testing a plurality of wireless subscriber stations. The method includes the feature "selectively creating, in the digital processor, a plurality of doppler frequency shifted signals from the plurality of independently faded signals to generate a plurality of independently faded, selectively doppler shifted signals." Support for this feature can be found, for example, at [0042] of the Specification, as filed.

The cited references, whether alone or in combination, fail to teach or suggest at least this claimed feature. None of the cited references teaches or suggests selectively creating Doppler frequency shifted signals. Additionally, none of the cited references teaches or suggests creating such Doppler frequency shifted signals in a digital processor.

The Examiner cites to Lee as teaching creating a plurality of independently faded signals in a digital processor. *See, Office Action,* at page 3. However, Lee fails to make any mention of creating a Doppler shifted signal, and fails to make any mention of selectively creating a Doppler shifted signal. Indeed, Lee fails to even mention doppler shifts and fails to even use the term "doppler" in its description.

Similarly, Ramesh fails to describe creating a plurality of doppler frequency shifted signals. Ramesh also fails to mention doppler shifts and fails to even use the term "doppler" in its description.

The Examiner cites to Marchetto, in the rejection of claim 7, as teaching or suggesting applying a doppler frequency shift. *See, Office Action*, at page 5 (*citing* Marchetto, Col. 4, ll. 18-20). Applicant respectfully disagrees.

The cited and relied upon portion of Marchetto is reproduced below in its entirety.

> Also in the preferred embodiment, the interpolation filter means use predefined channel characteristics, including: a Doppler fading frequency, relative signal strengths of interfering signals at the receiver, propagation delay differences between the interfering signals, frequency offsets between the interfering signals, and a signal-to-noise ratio of the received signals. These predefined channel characteristics are selected based on a worst case scenario for fading and interference between the received signals. *Marchetto*, at Col. 4, ll. 18-26.

The cited portion from Marchetto fails to teach or suggest selectively creating a plurality of doppler frequency shifted signals. Instead, the cited portion from Marchetto merely describes that an estimate of a worst case doppler value is used as a predefined characteristic by an interpolation filter.

Marchetto does not describe creating doppler frequency shifted signals, but instead, describes using a predefined value for worst case doppler shift in determining compensation in an interpolator. Marchetto states: "Interpolator 92 in the present invention, unlike the prior art system discussed above, uses predefined channel characteristics to develop an appropriate interpolated channel impulse response estimate to apply to each of the data symbols in a frame being processed. These predefined channel characteristics include the Doppler fading frequency for the channel…" *Marchetto*, at Col. 8, ll. 28-34.

Marchetto does not describe any manner of creating doppler frequency shifted signals, and instead, describes using an estimate of a worst case doppler *value* to configure an interpolator.

Thus, the references, whether alone or in combination, fail to teach or suggest at least the claimed feature of "selectively creating, in the digital processor, a plurality of doppler frequency shifted signals from the plurality of independently faded signals to generate a plurality of independently faded, selectively doppler shifted signals." None of the references teaches or suggests the claimed feature, and the combination of references cannot cure a deficiency that exists in every one of the cited references.

Applicant respectfully requests reconsideration and allowance of claim 1.

Claims 13, 25, 37, 49, and 50 each includes features similar to those discussed above in relation to claim 1. Thus, claims 13, 25, 37, 49, and 50 are believed to be allowable at least for the reasons presented above in relation to claim 1.

Claims 2-12, 14-24, 26-36, and 38-48 depend, either directly or indirectly, from one of claims 1, 13, 25, or 37. Claims 2-12, 14-24, 26-36, and 38-48 are believed to be allowable at least for the reason that they depend from an allowable base claim.

Each of the dependent claims may have individual bases for patentability beyond those discussed above in relation to the independent claims. It is not necessary to discuss the patentable distinctions of each dependent claim because of the allowability of the base claims from which they depend.

Applicant respectfully requests reconsideration and allowance of claims 2-12, 14-24, 26-36, and 38-48.

The Modification of the References is Improper

An independent basis for the allowability of the claims, apart from any reasons presented and discussed above, is the impropriety of the modification or combination of references relied upon by the Examiner.

The proposed combination and modification of Ramesh, Lee, and Marchetto cited and relied upon by the Examiner is improper because the combination renders at least the Ramesh and Marchetto references unsatisfactory for their intended purpose. Moreover, the combination relied upon by the Examerin improperly changes the principle of operation of at least the Ramesh and Marchetto references.

As discussed in Applicant's prior correspondence, Ramesh is not directed to generating or otherwise creating signals for testing a wireless subscriber station. Ramesh fails to describe intentionally creating fading signals. In stark contrast, Ramesh is directed to *compensating for fading* in an analog AM radio signal. *Ramesh*, Title and Abstract. (*emphasis added*).

As described in Ramesh:

> Notably, to improve the fading estimate, the amplitude of the inserted pilot symbols should be at the maximum possible amplitude level allowed for the received analog signal. Comparing the interpolated estimate of the fading that occurred with the faded time-compressed signal, *the fading compensation unit 30 adjusts the amplitude and phase of the received signal accordingly to compensate for the fading that occurred*. The time-compressed, fading compensated signal is then expanded in time and output to a user. *Ramesh*, at Col. 4, ll. 34-42. (*emphasis added*).

Creating or otherwise generating independently faded signals for transmission to a wireless subscriber station is directly contrary to what is accomplished by the system described in Ramesh. Thus, it is improper to modify Ramesh to perform creating faded signals or otherwise combine a teaching of creating faded signals to Ramesh, because such modification or combination is in direct contrast to the intended purpose in Ramesh. Ramesh is directed to compensating for fading. Modifying Ramesh to perform creating fading signals renders Ramesh unsatisfactory for its intended purpose. Moreover, modifying Ramesh to perform creating fading signals improperly changes the principle of operation of Ramesh. The Examiner's proposed modification of Ramesh changes its principle of operation from a receiver with fading compensation to a transmitter that generates the very fading signals that Ramesh is directed to removing.

Similarly, Marchetto is directed to compensating for multi-path interference. *Marchetto*, Title and Abstract. Marchetto, like Ramesh, is directed to removing the effects of multi-path interference at a receiver. Marchetto recognizes that fading is a situation that is detrimental to receiver operation and a condition that is to be *avoided*. *See, Marchetto*, Abstract ("*The transmitted modulated signal is subject to loss of data due to simple fading and multi-path and simulcast interference.*")

Thus, any proposed modification to Marchetto that results in Marchetto creating fading signals is *directly contrary* to the described system for compensating for multi-path interference. Such a modification to Marchetto renders Marchetto unsatisfactory for its intended purpose. Indeed, such a modification or combination to Marchetto changes its principle of operation from a receiver with fading compensation to a transmitter that generates the very fading signals that Marchetto is directed to removing.

Thus, the proposed modification of Ramesh or Marchetto relied upon for the rejection of Applicant's claims is improper, because the proposed modification renders at least Ramesh and Marchetto unsatisfactory for their intended purpose. Furthermore, the proposed modification relied upon for the rejection of Applicant's claims is improper because the modification impermissibly changes the principle of operation described in Ramesh and Marchetto.

The rejection of claims 1-50 each rely on an improper modification of Ramesh and Marchetto. Applicant respectfully requests reconsideration and allowance of claims 1-50 ion light of the impropriety of the proposed combination of Ramesh, Lee, and Marchetto.

Discussion of New Claim

Applicant adds new claim 51. No new matter is added by amendment. support for claim 51 can be found, for example, at FIG. 2 and paragraph [0020] of Applicant's application, as filed.

Claim 51 is believed to be allowable because none of the cited references teaches or suggests transmitting different fading signals to different spatially diverse antenna ports of a wireless subscriber station. Applicant respectfully requests allowance of claim 51.

CONCLUSION

In the foregoing remarks, Applicant has focused on the requirements of the independent claims for purposes of conciseness. In so doing, Applicant in no way admits or acquiesces in the propriety of the Office Action in regard to the interpretation of the prior art or any of the additional limitations set forth in the various claims, including the limitations of the dependent claims.

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims.

Applicant petitions the Director of the United States Patent Office to extend the time for reply to the Office Action dated June 19, 2008 for one month and authorizes the charge as set forth in §1.17(a) to Deposit Account No. 17-0026. Applicant believes that the instant response is filed within the period for response provided in the Office Action of June 19, 2008 extended by two months as provided for under 37 CFR 1.136.

If there are any other fees due in connection with the filing of the response, please charge the fees to our Deposit Account No. 17-0026. If a fee is required for an extension of time under 37 CFR 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Please charge any additional fees or credit any overpayment to deposit account number 17-0026. The Examiner is invited to telephone the below-signed attorney to discuss this application.

Date: By:

____November 19, 2008_____ _____/William Marcus Hooks/_____

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